

**4/S1**  
v 3.3 (en)

# VENTILATION LOUVRES

FZ, AFZV, AFZM, RL, RL-A, ARZ, RZO, PL



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**Definition of symbols:**

$V$ [m <sup>3</sup> /h]	- Air flow	$v_h$ [m/s]	- Average core velocity at distance $h$ (m) from a diffuser
$V_n$ [m <sup>3</sup> /h]	- Nominal air flow	$\Delta p$ [Pa]	- Total pressure drop
$V_{uk}$ [m <sup>3</sup> /h]	- Total air volume in motion	$t_p$ [°C]	- Air temperature in a room
$h$ [m]	- Distance from the ceiling to the occupied zone	$t_z$ [°C]	- Supply air temperature
$H$ [m]	- Room height	$t_m$ [°C]	- Core air temperature
$A, B$ [m]	- Distance between diffusers	$\Delta t_z$ [°C]	- ( $t_z - t_p$ )
$x$ [m]	- Distance from wall	$\Delta t_L$ [°C]	- ( $t_m - t_p$ )
$L$ [m]	- Throw distance ( $x+h$ )	$i$	- Induction $V_{uk}/V$
$A_{ef}$ [m <sup>2</sup> ]	- Effective discharge area	$L_{WA}$ [dB(A)]	- Sound power level
$v_{ef}$ [m/s]	- Effective jet velocity		
$v_L$ [m/s]	- Average core velocity at distance $L$ (m) from a diffuser		
$v_{Lmax}$ [m/s]	- Maximum core velocity at distance $L$ (m) from a diffuser		

**FZ**

**AFZV**

**FZ | AFZV**

- FZ - made out of galvanized steel sheet
- AFZV - made out of aluminium profiles
- Galvanized steel mesh on the back side
- Fixing with screws

**Options:**

- Installation subframe
- RAL...

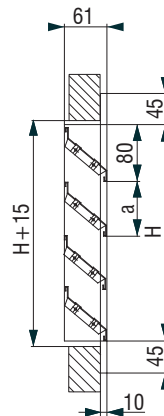
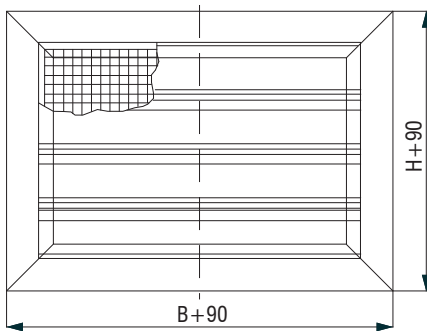
\* Holes for screws are not drilled

**Standard dimensions FZ, AFZV\***

B	385 - 1885 mm, in increments 200mm
H	300 - 1800 mm, in increments 150mm

\*all combinations B x H are possible

Free cross-section approx. 60 % of B x H



Dimension B > 1885 mm or H > 1800 mm

$$B = 2B1 + 90; H = 2H1 + 90$$

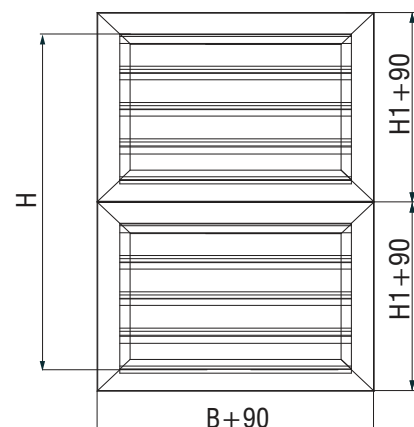
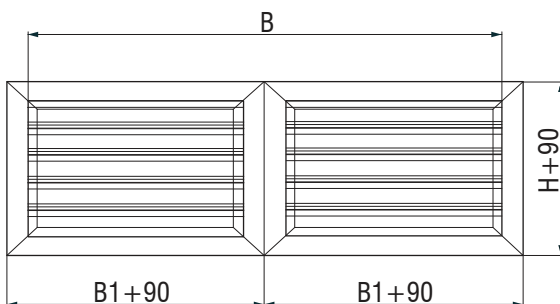
Example :

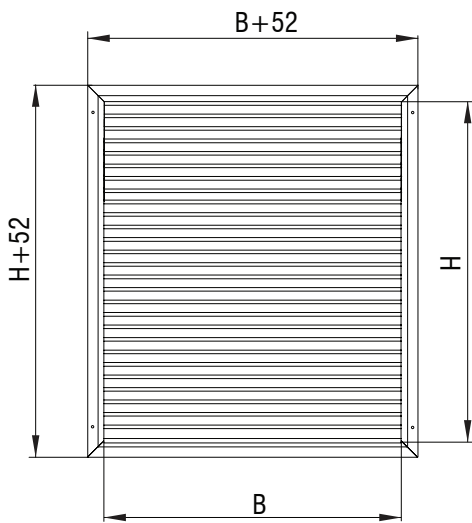
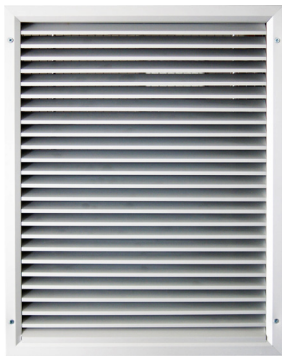
$$B = 1785 \text{ mm}$$

$$H = 3400 \text{ mm}$$

$$H = 2 H1 + 90$$

$$H1 = (H - 90)/2 = (3400 - 90)/2 = 1655$$





**AFZM**

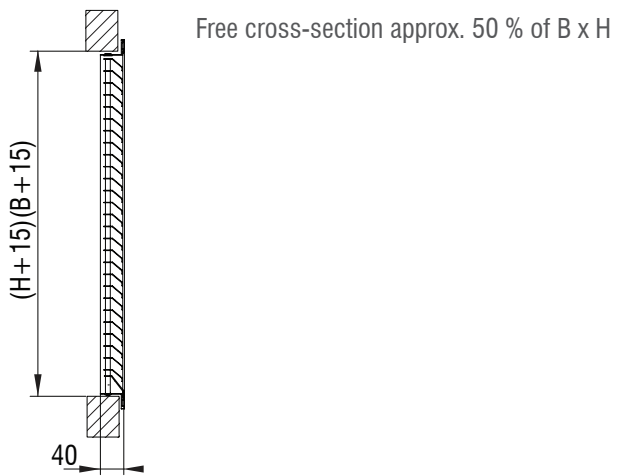
- Made out of anodized aluminium profiles
- Galvanized steel mesh on the back side
- Fixing with screws

Options:

- Installation subframe (UR)
- RAL...

Standard dimensions AFZM*	
B	297 - 1197 mm, in increments 100mm
H	197 - 497 mm, in increments 100mm

\*all combinations B x H are possible

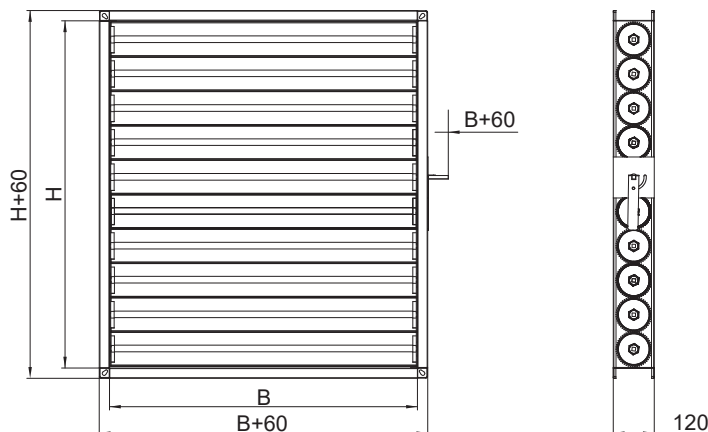


**RL-A / RL**

- RL - made out of galvanized steel sheet, gears and bearings made of ABS.
- Opposed damper blade operation
- $\Delta p_{max} = 1000 \text{ Pa}$ ;  $t_{max} = 70^\circ\text{C}$

Standard dimensions RL*	
B	200 - 1400 mm, in increments 100mm
H	215 - 1015 mm, in increments 100mm

\*all combinations B x H are possible

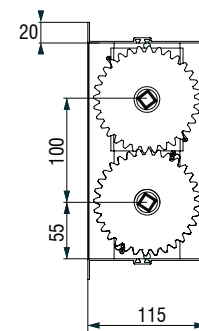
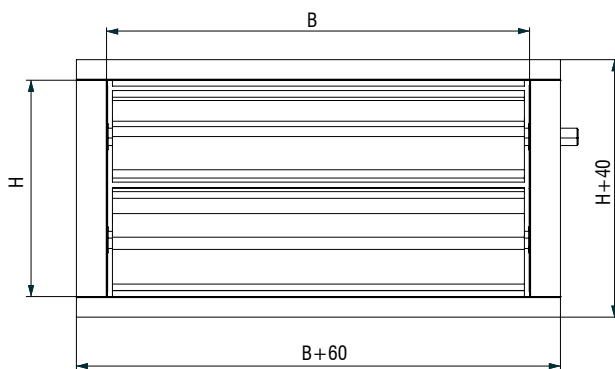


**ARZ**

- Made out of anodized aluminium profiles, gears and bearings made of ABS.
- Opposed damper blade operation
- Blade tip seals, made of specially profiled rubber provides excellent sealing characteristics
- $\Delta p_{\max} = 600 \text{ Pa}$ ;  $t_{\max} = 70^\circ\text{C}$

**Standard dimensions ARZ\***

B	400 - 2400 mm, in increments 200mm
H	210 - 1510 mm, in increments 100mm

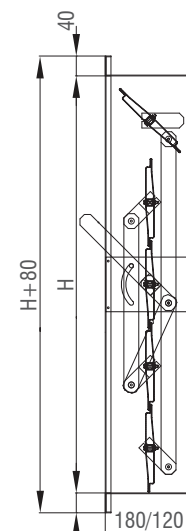
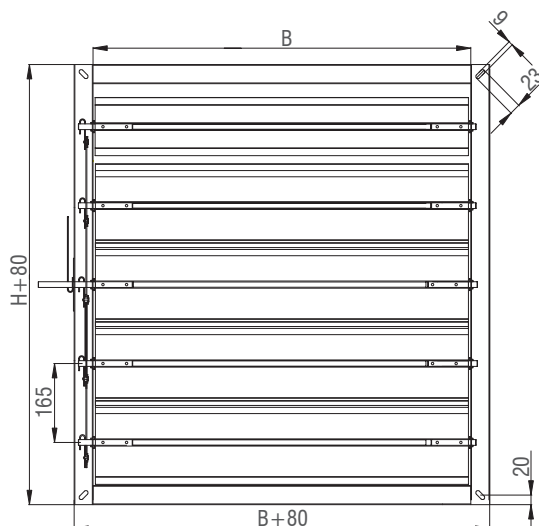

**RZO**

- Reinforced regulation louvre
- Made out of steel sheet profiles, reinforced damper blades out of steel profiles, brass bearings
- Frame width RZ012 - 120 mm  
RZ018 - 180 mm
- Counter-rotating damper blades

**Standard dimensions RZ\***

B	400 - 2000 mm, in increments 200mm
H	345 - 1995 mm, in increments 195mm

\*all combinations B x H are possible



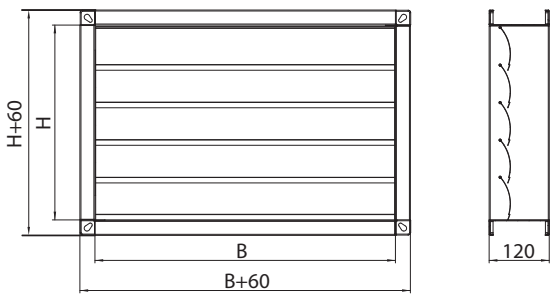


**PL**

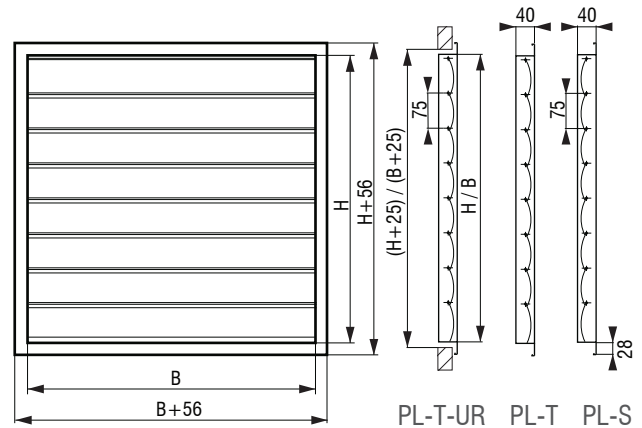
- Frame made of anodized aluminium profiles, blades made from anodized aluminium sheet.
- Duct version - frame made of galvanized steel sheet
- Wall or duct installation with screws

**Options**

- Overpressure (Exhaust)
- Underpressure (Supply)
- Duct type
- Discharge with square-to-cylindrical transition section
- Installation subframe



PL-K



PL-T-UR PL-T PL-S

**Standard dimensions PL-T, PL-S, PL-K\***

B	200 - 1600 mm, in increments 200mm
H	240 - 1590 mm, in increments 75mm

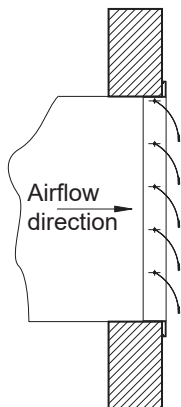
\*all combinations B x H are possible

**Standard dimensions PL-T/O\***

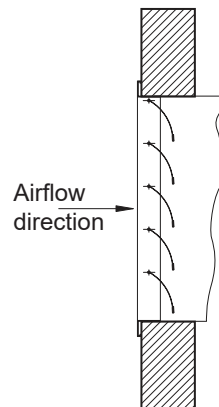
B	330 - 730 mm, in increments 50mm
øD	300 - 700 mm, in increments 50mm

\*all combinations B x H are possible

**OVERPRESSURE**

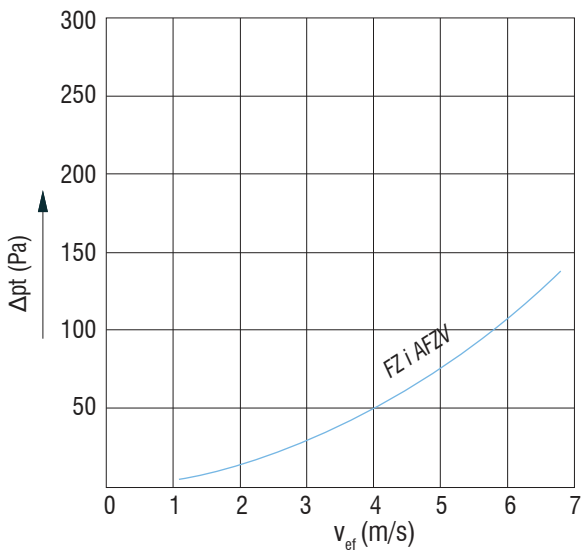


**UNDERPRESSURE**

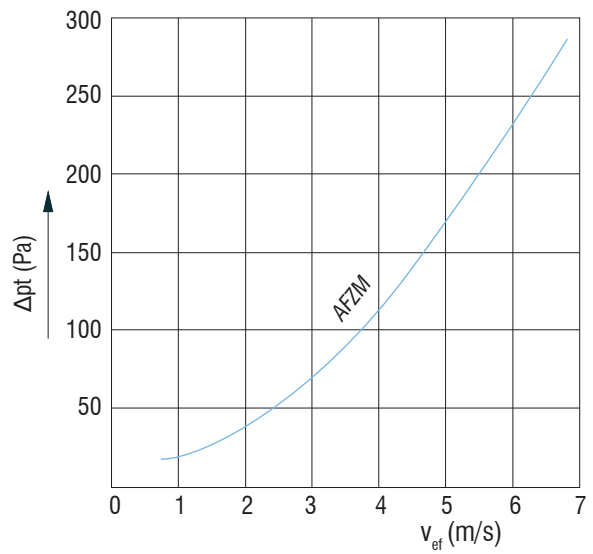


SELECTION DIAGRAMS

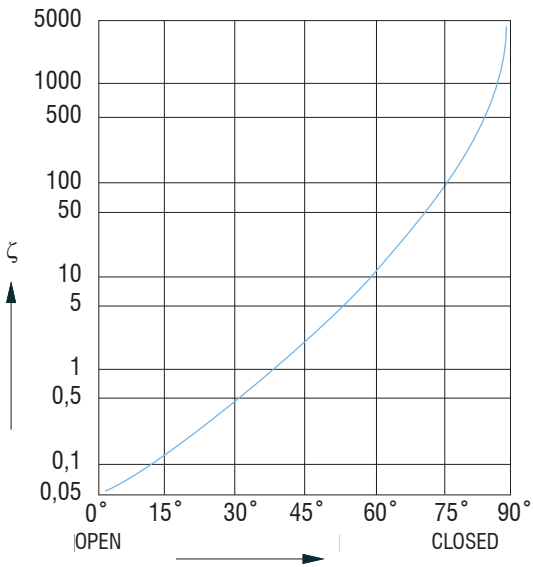
Pressure drop diagram - FZ



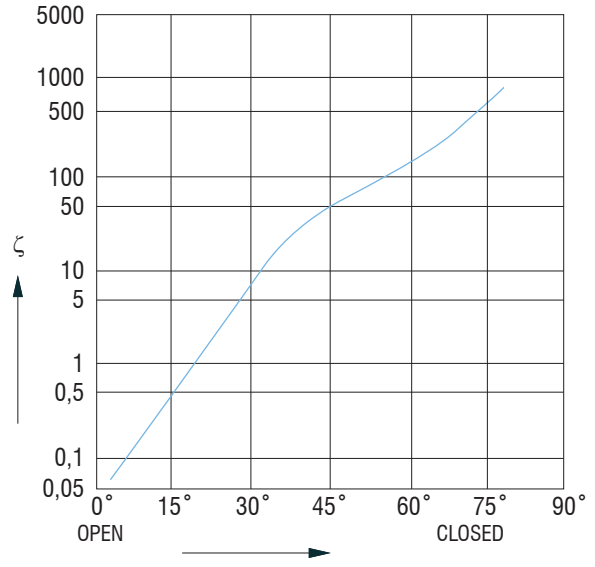
Pressure drop diagram - AFZM, AFZV



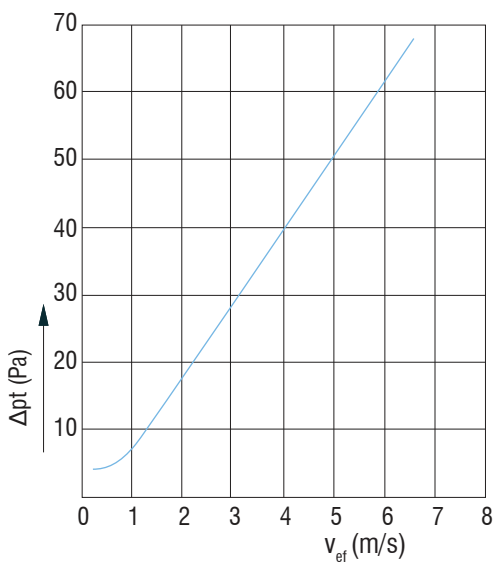
Flow resistance diagram - FZ



Flow resistance diagram - ARZ



Pressure drop diagram - PL





**ORDERING KEY**

Louvre type	<b>AFZM - 1785X1500 - UR - M230 - OZ</b>
<b>FZ, AFZV, AFZM, RL, RL-A, ARZ, RZO, PL</b>	
Dimensions	
Installation subframe (UR)	
Drive (RL, ARZ)	
- <b>R</b> , manual	
- <b>M 24</b> , motor actuator 24 V	
- <b>M 230</b> , motor actuator 230 V	
Regulation (RL, ARZ)	
- <b>OZ</b> (two positions)	
- <b>K</b> (continuous)	
- <b>F</b> (return spring)	

\* Screws are not delivered